

REMARKS/ARGUMENTS

1. Claim Amendments

The Applicant has amended claims 1-15 and claim 16 has been added. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-16 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

2. Objections - Drawings

The Examiner has objected to Figures 1A, 1B and 2 in that they should be designated by a legend – Prior Art--. Applicant has amended the drawing sheets and submits replacement sheets for Examiner's review.

3. Objections Specification

The Applicant acknowledges the Examiner's change to the title.

4. Claim Rejections – 35 U.S.C. § 102(e)

Claims 1, 4-8 and 11-15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Itoh, et al. (US 20030100267 A1, hereinafter Itoh). The Applicant has amended the claims to better define the intended scope of the claimed invention. Claims 1 and 8 have been amended to overcome the cited art by verifying the transmitted Transmit Power Control (TPC) command by determining if the TPC command has been correctly received and weighting pilot and data symbols.

The feature of determining if the TPC command was correctly received is novel over Itoh. In Itoh, the feature of "performing the quality judgment procedure" is performed irrespective of whether the TPC command has been received correctly. Itoh describes a method for determining the SIR for use in the base-station. This is used to determine the correct power to the User Equipment (UE). The SIR update in the base-station, of course, depends on what the UE requires, given by the TPC bits sent in the uplink.

This is contrasted with the present invention which is directed to the downlink inner loop power control. In the present invention (as claimed) the novel step is in verifying at the UE that the sent TPC bit was correctly received by the base station by checking (as supported by equation 4) if a power up command was sent, or (as supported at page 10, line 9) if a power down command was sent. That is, by checking the power of the received signal at the UE, the UE determines if the previous TPC command was correctly received by the base station.

Of course, the UE has the information as to what TPC command it sent. In the present invention, the UE verifies that the base station (e.g., NodeB) fulfilled the UE desire of a power step based on the sent TPC command.

The power change is then known (in the transmitted signal from the base station, that is the received signal at the UE), and more data, including previous data symbols, can be used in the SIR estimation. Data/pilots with both the old and the new power setting are used. This provides better SIR estimation and improved power control.

Once it is known that the TPC bit was sent, knowledge of the power of previous slots can be used to reduce the noise in the power measurement of the current slot. (See equations 5 and 6). If the TPC is verified, the data symbols prior to the pilot slot is also used for the SIR estimation (see I₃ in Fig. 3 and P₃). The Examiner's consideration of the amended claims is respectfully requested.

5. Claim Rejections – 35 U.S.C. § 103 (a)

Claims 2-3, and 9-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Itoh in view of Dabak. (US 6804311 B1, hereinafter Dabak). The Applicant has amended the claims to better define the intended scope of the claimed invention. Dabak fails to overcome the deficiencies of Itoh as discussed above. Dabak is directed to detecting transmit diversity and is not directed to power control. The "weighting coefficients" disclosed by Dabak are irrelevant to the objectives and features of the present invention. Dabak, par. 3, lines 47-58, refers to Rayleigh fading parameters corresponding to a first antenna lead. Hence, Dabak appears directed to weighting the difference in fading due to different antennas (transmit diversity). Hence, it

is not applicable to the present invention. The Examiner's consideration of the amended claims is respectfully requested.

6. Prior Art Not Relied Upon


In paragraph 2 on page 5 of the Office Action, the Examiner stated that the prior art made of record and not relied upon is considered pertinent to the Applicant's disclosure. None of the cited references, alone or in combination, disclose or suggest the novel and non-obvious aspects of the present application as claimed.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,



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